

Transit- oriented development: an opportunity to shape SEQ's communities of tomorrow

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INTRODUCTION

South East Queensland has very few identified Greenfield growth areas remaining. By considering transit-oriented development principles, and with public transport infrastructure funding commitments in place to support this, we have the opportunity to shape the communities of the future and make the most of the Greenfield land we do have left.

Transit-Oriented Development (TOD) is not just about increasing public transport ridership, but achieving desirable land use, economic and social outcomes. It is acknowledged that there are limits to funding for transport infrastructure; but without, we risk losing the opportunity to create a new type of community – a vibrant, mixed-use community that is less dependent on automobiles - from the outset rather than through infill and redevelopment. All levels of government and the private sector need to work together to create new thinking to facilitate solutions to ensuring the necessary infrastructure is in place.

Planning and development is currently underway for some of South East Queensland's major new urban growth areas. The region has the opportunity to adopt an innovative approach to facilitating the growth of Greenfield centres to create an urban structure that will support the communities of tomorrow. This structure must surely address the major regional, national and global realities with which we are currently faced – peak oil, traffic congestion, urban sprawl and global warming. If we do not take advantage of this opportunity, instead we will facilitate a series of disjointed suburban developments that merely support and exacerbate current infrastructure problems.

This presentation first defines transit-oriented development; and then considers the importance to a transit-oriented community approach to development of Greenfield

centres; and the need for transport infrastructure to lead growth of new centres. The presentation then looks briefly at two SEQ-specific case studies, in which THG are currently involved – Pimpama on the Gold Coast and Greater Flagstone in Logan City. Both of these examples emphasise the opportunities for these major growth areas to be planned as transit-oriented communities, underpinned by timely commitments to public transport infrastructure provision.

South East Queensland is Australia's fastest growing metropolitan region, in the third fastest growing country in the developed world¹, accommodating an average of over 55,000 additional persons per annum between 1986 and 2004². This growth is anticipated to continue, with the South East Queensland Regional Plan 2009-2031 projecting a total population of 4.4 million in 2031, up from 2.8 million residents in 2006³.

To accommodate this high level of population growth, the SEQ Regional Plan requires that the region focus development within the identified Urban Footprint and on a strategy of compact, efficient urban development. One of the approaches identified in both SEQ Regional Plans to-date is Transit-Oriented Development⁴.

TRANSIT-ORIENTED COMMUNITIES

The SEQ Regional Plan defines transit-oriented developments as “*mixed use residential and employment areas designed to maximise the efficient use of land through high levels of access to public transport*”⁵.

In a presentation in 2007, the Chair of the Queensland Government's TOD Taskforce, offered three important characteristics of transit-oriented development:

- High quality public transport
- Higher densities and mixed uses
- High quality urban design⁶.

One ‘characteristic’ that wasn't included was a ‘public transport culture’. It is critical that creating TODs is not just about constructing physical infrastructure, building and spaces; but also about fostering generational change; to promote a community and culture that proactively reduces their automobile dependence and prioritises walking, cycling and travelling via public transport.

¹ Central Intelligence Agency, *The World Factbook*, (CIA: April 2009), www.cia.gov/library/publications/the-world-factbook/index.html.

² Office of Urban Management, *South East Queensland Regional Plan 2005-2026*, (Queensland Government: June 2005), p.6.

³ Department of Infrastructure & Planning, *Draft South East Queensland Regional Plan 2009-2031*, (Queensland Government: December 2008), p.86.

⁴ Both SEQ Regional Plans reference TOD. Office of Urban Management, *op.cit.*, p.75. and Department of Infrastructure & Planning, *op.cit.*, p.96-7.

⁵ Department of Infrastructure & Planning, *op.cit.*, p.96.

⁶ Presentation by Greg Vann, Chair of the Queensland Government's TOD Taskforce, as Session Chair, at the *Living Smarter: The Future of South East Queensland* conference, March 2007.

DEFINING TOD

GB Arrington of PB Place Making in the United States emphasises the difference between transit-oriented development (TOD) and transit-adjacent development (TAD)⁷. Transit-adjacent development tends to involve conventional single-use development patterns, with conventional parking requirements⁸; and while located *adjacent* to public transport, does not have any functional or meaningful relationship with the transport node⁹. Arrington suggests there are limited benefits to be achieved through TAD, as despite proximity to transit, TAD does not reshape (or shape) development.

GB Arrington makes another important distinction; defining two different types of projects when considering development around transit¹⁰. Firstly he defines TOD as a project incorporating development of a transit village, town centre, urban infill or even Greenfield community within a five (5)-minute walk of a transit node. He separates this type of project from a “joint development”, which generally occurs on a parcel of single ownership, often publicly owned land, and primarily with rail stations¹¹. Most joint developments involve a single development of a central building or precinct incorporating the rail station; rather than planning a broader rail catchment¹².

This research raises important considerations for developing South East Queensland’s future transit-oriented communities; especially given that most existing and future TOD projects planned for the region reflect Arrington’s definition of a “joint development” project. Reedy Creek, Albion, and Milton are a few examples of this type of development, which focus on one development site; rather than necessarily leading generational change towards a public transport culture among the broader community.

Considering the limited availability of broadhectare development sites within the Urban Footprint, it is acknowledged that this type of infill and redevelopment approach must form a critical component of accommodating population growth in the region. It is also recognised that given the often significant timeframes and resources involved in masterplanning broader precincts, single-site based TODs offer an appealing opportunity to get “runs on the board”. It is noted that the precinct plan type TODs, as opposed single-site type TODs, offer significant complexity due to the difficulties associated with

⁷ GB Arrington, *Transit-Oriented Development*, Parsons Brinckerhoff, as part of a series of Transit Resource Guides available through the American Public Transportation Association, www.apta.com.

⁸ Hank Dittmar is quoted in: Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges & Prospects*, (Transit Research Board: 2004), p.5.

⁹ Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges & Prospects*, (Transit Research Board: 2004), p.5.

¹⁰ GB Arrington, *Understanding the Fundamentals of TOD*, (PB Placemaking), p.10.

¹¹ *Ibid.*, p.10.

¹² *Ibid.*, p.10.

assemblage of fragmented, privately-owned land, especially given the limited powers of Government in this regard.

This only emphasises the importance of taking a different approach to SEQ's identified Greenfield growth areas - considering the broader community and linkages associated with Arrington's definition of a "transit-oriented development" project. SolarCity in Linz, Austria is an example of a Government making a decision to create a viable and vibrant new community from scratch; proactively addressing some of our biggest global pressures. Public transport infrastructure and services were put in place as a first step to influence the development of the City and the community. Both identified case study areas in this presentation, Pimpama and Greater Flagstone, offer an opportunity to precinct plan transit-oriented communities for a broader catchment, rather than a single site, given that both involve only a small number of private land owners.

Without construction of public transport infrastructure in a timely fashion, SEQ's remaining Greenfield areas have great potential for resulting in residential and commercial development *adjacent* to transit; losing the opportunity to shape a new public transport-focussed future for these communities.

LEADING DEVELOPMENT WITH INFRASTRUCTURE

*"The lack of services early in the life of newly developing areas often leads to higher car usage and a reluctance to use public transport. Such reluctance is likely to continue even when the suburb matures, even when public transport services improve"*¹³. This is a quote from Queensland Transport (QT) in their Shaping Up Strategy, supporting the critical nature of early provision of infrastructure. The Shaping Up Strategy also notes that *"easy access to public transport is required to be provided early so that locational choices are in fact influenced by the availability of public transport"*¹⁴.

Regional strategic planning documents, including this one and the SEQ Regional Plan, indicate that transit-oriented developments are essential components of urban structure and form and that early provision of public transport services is vital. While policy support for TODs may be in place however; funding constraints mean that implementation and delivery of the necessary transport infrastructure is difficult to facilitate and is not occurring in growth areas.

Without public infrastructure in place, households will demand dwellings that accommodate their car-dependent lifestyles. This will ensure that the traditional size of houses and lots will dominate for another 20 to 30 years; impacting upon the coming generations' orientation to public transport and significantly underutilising our Greenfield areas.

¹³ Queensland Transport, *Shaping Up Strategy*, (Queensland Government), p.6.

¹⁴ Ibid, p. 12

While policy openly supports the benefits of integrating land use and transport planning to create vibrant communities, decisions to prioritise and fund infrastructure provision often remain based on a technical benefit cost analysis; only giving very limited consideration to the direct and indirect land use, economic, social and environmental implications; with most factors relating directly to the physical location of the future station or the viability of the station in terms of construction cost, patronage and operations. There is a particular need for consideration of the impacts of timing of infrastructure provision.

In this regard, the viability of rail infrastructure does raise a “chicken and the egg” dilemma. This type of analysis generally identifies a number of passenger trips per annum at a set point in time in a station’s population catchment that will support the viability of a proposed station. These analyses do not however take into account the fact that the densities required to support the viability of a train station can only be achieved if the train station is committed to be constructed within a short timeframe. If construction of a train station is not committed, the area will achieve significantly lower densities and most likely a single land use, which will mean that the catchment may not be capable of reaching sufficient critical mass to support a train station at all.

It is acknowledged that only a finite bucket of money is available; however, in order to achieve the theoretical benefits of transit-oriented development, funding must be allocated and construction must occur in a timely manner in order to not lose the opportunity to create sustainable future communities from our Greenfield areas. Alternatively, SEQ will continue to be faced with several key challenges that will guide the region’s future, including increased traffic congestion and hence growing carbon emissions, reduced air quality and peak oil vulnerability; and lower-density urban sprawl that accommodates larger and more costly dwellings that support a car-dependent lifestyle.

Substantial investment in expansion or duplication of major highways to supposedly reduce traffic congestion is often the result of short-term motivations and cycles, and is thought to further encourage a dependence on private vehicle travel. On the other hand, commitments to build a rapid transit network on the Gold Coast provide a perfect example of the costs and issues involved in retrofitting transport infrastructure in an already motor-vehicle dependent and oriented community.

Pimpama on the Gold Coast and Greater Flagstone in Logan City are two examples of South East Queensland growth centres that require commitments to transport infrastructure in order to take advantage of the opportunity to shape their communities for a more sustainable future.

PIMPAMA, GOLD COAST CITY

Pimpama is part of the Gold Coast’s northern growth corridor, experiencing high annual population growth rates of around 15 percent per annum over the last few years, compared to Queensland’s growth rate over the same period of about 2.5 percent per annum. The proposed Pimpama rail station is one of four (4) “potential future” rail stations proposed for the existing Gold Coast to Brisbane passenger rail line, but according to

multi-criteria analysis prepared for Queensland Transport¹⁵, the station may not be warranted prior to 2016 and therefore is not yet being considered a priority for funding.

In the Multi-Criteria Analysis, the potential future Pimpama station ranked very highly against nine (9) out of ten (10) criterion; however its catchment area was not considered to have sufficient population in place by the set timeframe of 2016 to viably support patronage of the train station.

Significant research by THG since has successfully demonstrated that based on developments proposed, approved, underway and completed in the catchment area the critical mass of population they require will be achieved between 2012 and 2014. While the need for provision of the train station in these areas is now acknowledged by both local and state government in terms of capacity and timing of growth of population catchments, funding for its provision is still not available. This raises important considerations for the future of Pimpama.

The major development directly adjacent to the proposed Pimpama station, which has a preliminary development approval, has the potential to create a vibrant, mixed use town centre and walkable community to serve the major residential development occurring in the catchment and also create local business development and employment opportunities. In this particular case study, there is potential for not only a “joint development” of a mixed use site including the Pimpama rail station; but also the opportunity to influence improved urban outcomes for a transit-oriented community within the broader catchment area. This project is able to create around 2,700 dwellings, over one third of which are proposed as high density dwellings within an 800-metre walkable radius of the train station. This is a development strategy that is considered viable by the proponent in terms of market demand and has significant positive implications for housing affordability.

Given the long timeframes currently associated with construction of the Pimpama station however, the proponents of this project have a second, alternative development scenario. Without the construction of the train station, the higher densities and mixed uses promoted in the SEQ Regional Plan, which are required to accommodate projected population and dwelling growth on the Gold Coast, and vital to creating a sustainable community, are just not viable. In this scenario, to the disadvantage of regional policy, the future community, and the developer, much lower density residential housing options and only limited additional land uses and activities will be achieved. The end result will be a future transit-adjacent community that will have limited relationship with the rail station if and when it is eventually constructed in the medium-to-long term.

“The importance of TOD initiatives in the overall context of urban development is acknowledged in that the earlier these initiatives are put in place; a greater proportion of the community would have easier access to high frequency public transport whilst ensuring a more financially viable public transport system”¹⁶. This is a quote from Gold Coast’s draft Local Growth Management Strategy. In their Planning Scheme, Gold Coast

¹⁵ Maunsell Australia Pty Ltd, *Gold Coast Rail Station Needs Analysis*, (Queensland Transport: July 2005), p.iii.

¹⁶ Gold Coast City Council, *Gold Coast City Local Growth Management Strategy - Draft – October 2007*, op.cit., p 36

City Council also: “encourage the early construction of bus or rail stations so that their presence can influence the development of the new community and encourage a public transport culture from the start”¹⁷. As with regional planning policy and strategy, Gold Coast City Council also promotes the importance of transport infrastructure leading development. It is essential that Gold Coast City Council work closely with all relevant private and public sector parties to prioritise funding for the rail station in order to not lose the opportunity to shape a transit-oriented community and public transport culture at Pimpama.

GREATER FLAGSTONE, LOGAN CITY

The Mount Lindesay/North Beaudesert Study Area project led by the Queensland Government initially planned Greater Flagstone as a major growth centre accommodating around 60,000 people¹⁸. Now planning by Logan City Council indicates that the future City of Greater Flagstone is anticipated to be home to a population of around 150,000.

The designated future City is bound to the east by the existing national gauge freight line connecting Sydney and Brisbane. The technical ability to add dual gauge rail lines to accommodate passenger rail services in this existing transport corridor has been confirmed by the State Government¹⁹; however in SEQIPP a Salisbury to Beaudesert Passenger Rail Study, which will be commissioned to determine the viability of a passenger line; has been allocated a possible timeframe for completion of 2010 to 2019²⁰.

In December 2008, the Commonwealth Government committed to \$55.8 million in funding to upgrade the existing interstate standard gauge rail from Acacia Ridge (in south Brisbane) to Bromelton (a major future industrial City) as part of their Nation Building Fund allowing for passenger services adjacent to Greater Flagstone²¹. While this funding does not allow for rail stations and train sets, it provides a significant base of infrastructure with which to proceed. National Rail is currently working with Queensland Rail to initiate the upgrade of the rail line; however no commitments have been made by the Queensland Government for construction of the ancillary infrastructure within a 2026 timeframe; despite the planning for the future City already being underway. This once again raises the issue of timing of infrastructure provision.

Similarly to Pimpama, the availability of public transport and the consideration of transit-oriented development principles will guide the development of the future City of Greater Flagstone. Outline Structure Planning processes for Greater Flagstone indicate maximum densities of up to only 50 dwellings per hectare are to be achieved in the City's three future centres. On the other hand, other future centres, such as Coomera, are targeting up to 200 dwellings per hectare in order to achieve a vibrant mixed-used community that can support a viable town centre, public transport infrastructure and other associated businesses, facilities and services. Without public transport infrastructure in place, Greater Flagstone

¹⁷ Gold Coast City Council, *Gold Coast Planning Scheme: Key Strategies*, (Gold Coast City Council: January 2007), p. 28.

¹⁸ Office of Urban Management, *Mount Lindesay/North Beaudesert Study Area Study Report*, (Queensland Government: 2006).

¹⁹ Confirmation from Queensland Transport that this was the result of the *Salisbury to Flagstone-Greenbank Passenger Rail Investigation* completed by QT in 2006-07.

²⁰ Department of Infrastructure & Planning, *SEQ Infrastructure Plan & Program 2008-2026*, (Queensland Government: 2008), p.35.

²¹ Department of Prime Minister & Cabinet, *Nation Building: Rail, Road, Education & Research and Business*, (Commonwealth Government: December 2008).

will be very lucky to achieve even the planned 50 dwellings per hectare, and not necessarily in a form attractive to the market.

One of the benefits of the Greater Flagstone growth area, is the small number of key landowners. If timeframes for provision of rail infrastructure is maintained for 20 years time, development of predominantly traditional, lower density housing will occur, as would be expected if Greater Flagstone does not evolve as a TOD. In this case, complex ownership arrangements could be put in place to retain the large parcels of land in single ownership rather than have fragmented holdings. Noting of course that this is not likely to be a commercially-attractive or easy legal arrangement to facilitate. The large parcels could then be redeveloped in 20 to 30 years time when the rail is in place and can support the higher densities and mixed uses.

Is this an ideal urban outcome though? This scenario means that Greater Flagstone will start out as an automobile dependent community; that will require significant generational change to create a public transport culture and will require complete redevelopment to viably support infrastructure, facilities and services.

Both of these future growth centres, Pimpama and Greater Flagstone, offer the opportunity to create communities of the future, addressing major challenges that are facing South East Queensland (and the world). In the Queensland Government's TOD Fact Sheet they indicate that transit-oriented development results in "*the creation of vibrant communities; making the most efficient use of available urban land and provide the residential, transport infrastructure, employment and community facilities needed to accommodate growth in South East Queensland*"²². Through proactively implementing an integrated land use and transport approach focusing on provision of major passenger rail infrastructure, these growth areas have the opportunity to facilitate social, economic and environmental sustainability for the region.

While TOD is attributed many direct benefits, some specific outcomes in relation to regional sustainability include²³:

- Protection of open space and scenic amenity through the containment of urban sprawl and reduced urban encroachment into natural bush and agricultural land, as a result of higher densities and more compact urban form within the Urban Footprint;
- more efficient use of land and infrastructure; through the creation of higher densities facilitating a critical mass of infrastructure;
- reduced traffic congestion pressures through increased public transport use;
- better air quality benefits due to a reduced reliance on cars; and
- more equitable access to community facilities and employment.

²² Office of Urban Management, *Transit Oriented Development (Fact Sheet)*, (Queensland Government), p.1.

²³ Western Australian Government TOD Coordinating Committee, *Reconnecting Perth: the Cross-Portfolio TOD Program*, (Western Australian Government: July 2005), p.5.

Pimpama and Greater Flagstone will develop completely differently if public transport is not in place early – traditional, low density suburbs rather than vibrant, mixed-use, transit-oriented communities. If this is the case, then additional land will have to be allocated in the Urban Footprint to accommodate growth; encroaching upon our Regional Landscape.

The provision of public transport infrastructure and the consideration of transit-oriented development principles are critical; however considering the timing of public transport provision – leading development with infrastructure – has the potential to make or break SEQ's future communities.